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Claims 1-23 and 25-41 are currently pending in the present application. Claim 24 has been canceled. Claims 1-2, 23 and 29-30 have been amended for clarification. Claims 21-22 and 41 have been amended to overcome the objection that they depend from a rejected base claim to place them in condition for allowance. Applicants respectfully request reexamination, reconsideration and allowance of the application.

Applicants acknowledge and appreciate the indication that claims 7-8, 21-22, 27-28 and 40-41 are allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 21-22 and 41 have been rewritten as independent claims including all the limitations of the base claim and any intervening claims to place them in condition for allowance. Claims 7-8, 27-28 and 40 depend from allowable base claims 1 and 23, respectively. Therefore, applicants respectfully request that the objection to claims 7-8, 21-22, 27-28 and 40-41 be withdrawn and that they be allowed.

Further, applicants appreciate the time and courtesy extended to the applicants' counsel during the telephone interview of October 24, 2001, at which applicants were represented by Art Hasan (Reg. No. 41,057) and Jun-Young Jeon (Reg. No. 43,693). During the interview, applicants' counsel explained that U.S. Patent No. 6,038,031 to Murphy ("Murphy") does not appear to disclose new generation of multi-level values that are used as alpha blend values, and that "Computer Graphics: Principles and Practice" by Foley et al. ("Foley") appears to disclose supersampling an image in order to prevent damage cause by an inadequate initial sampling rate, but does not teach or suggest generating alpha values by filtering a graphics element. At the conclusion of the telephone interview, the Examiner has requested that applicants submit a formal response to the Office Action mailed August 8, 2001, so that the Examiner could, if necessary, perform further search.

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The Examiner has rejected claims 1-2, 6, 17-18, 23, 26 and 37-38 under 35 U.S.C. § 102(b) as allegedly being anticipated by Murphy. In addition, the Examiner has rejected claims 3-5 and 25 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Murphy, and further in view of Foley. Further, the Examiner has rejected claims 9-16, 19-20, 24, 29-36 and 39 under § 103(a) as allegedly being unpatentable over Murphy.

Murphy appears directed to a system and method for performing 3D copying operations in such a manner as to produce both a smooth image and smooth edges. According to the Examiner, Murphy discloses filtering the graphical element with a low pass filter to generate a multi-level value per pixel at an intended final display resolution in FIG. 4 (step 430) and Col. 2, lines 53-56 of Murphy. However, as the Examiner recites from Murphy, Murphy discloses that "Bilinear filtering improves the appearance of texture mapping surfaces by considering the values of four adjacent texels in order to determine the value of the displayed pixel." Thus, Murphy appears to disclose using the resulting value as the value of the displayed pixel and not as an alpha value. While it is true as the Examiner points out that the filtered pixel in Murphy may be associated with an alpha value, such as in the case of 32-bit RGBA pixels, the resulting alpha values depend on alpha values that existed prior to filtering and are not newly generated from filtering the graphics element as in the present invention.

Claim 1 recites, in relevant portion, "using the multi-level values as alpha blend values for the graphical element in a subsequent compositing stage, wherein generation of the multi-level values do not depend on alpha blend values that existed prior to filtering."

Claim 23 recites, in relevant portion, "a display engine for compositing the multi-level values with graphics images using the multi-level values as alpha blend values, wherein generation of the

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multi-level values do not depend on alpha blend values that existed prior to filtering."

As discussed above, in Murphy, the alpha values after filtering depend on the alpha values that existed prior to filtering and are not newly generated by filtering the graphics element. Since Murphy does not disclose that the "generation of the multi-level values do not depend on alpha blend values that existed prior to filtering," applicants respectfully request that the rejection to claims 1 and 23 be withdrawn. Further, since none of the cited references, individually or in any combination, teaches or suggests the subject matter of claims 1 and 23, applications respectfully request that claims 1 and 23 be allowed.

Since claims 2-6, 9-20, 25-26 and 29-39 depend, directly or indirectly, from claims 1 and 23, respectively, they incorporate all the terms and limitations of their respective base claim in addition to other limitations, which together patentably distinguish these claims over the cited references. Therefore, applicants respectfully request that rejection to claims 2-6, 9-20, 25-26 and 29-39 be withdrawn and that they be allowed.

In view of the above remarks, applicants respectfully submit that claims 1-23 and 25-41 are in condition for allowance, and respectfully request a timely indication of allowance of claims 1-23 and 25-41. If there are any remaining issues that can be addressed by telephone, applicants invite the Examiner to contact the applicants' attorney at the number indicated below.

Attached hereto is a marked-up version of the changes made to the
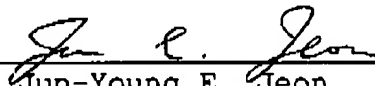
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specification and claims by the current amendment. The attached page
is captioned **"Version with markings to show changes made."**

Respectfully submitted,

CHRISTIE, PARKER & HALE, LLP

By _____
Jun-Young E. Jeon
Reg. No. 43,693
626/795-9900

JEJ/jej

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<u>**VERSION WITH MARKINGS TO SHOW CHANGES MADE**</u>

<u>**In the Specification**</u>:

CROSS REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of the filing date of U.S. provisional patent application number 60/107,875, filed November 9, 1998 and entitled "Graphics Chip Architecture," the contents of which are hereby incorporated by reference. ~~This application is related to U.S. patent application number _____, filed November 9, 1999 and entitled "Graphics Display System," the contents of which are hereby incorporated by reference.~~

<u>**In the claims**</u>:

1.   (Amended) A method of displaying a graphical element comprising the steps of:

filtering the graphical element with a low pass filter to generate a multi-level value per pixel at an intended final display resolution; and

using the multi-level values as alpha blend values for the graphical element in a subsequent compositing stage<u>,</u>

<u>wherein generation of the multi-level values do not depend on alpha blend values that existed prior to filtering</u>.

2.   (Amended) The method of displaying a graphical element of claim 1 wherein the multi-level values are written into a display buffer where the multi-level values are used as <u>the</u> alpha blend values when contents of the display buffer are composited with other graphics and video images.

22.   (Amended) ~~The method of displaying a graphical element of claim 2~~ <u>A method of displaying a graphical element comprising the</u>

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steps of:

    filtering the graphical element with a low pass filter to generate a multi-level value per pixel at an intended final display resolution; and

    using the multi-level values as alpha blend values for the graphical element in a subsequent compositing stage,

    wherein the multi-level values are written into a display buffer where the multi-level values are used as the alpha blend values when contents of the display buffer are composited with other graphics and video images, and

    wherein the opacity of the graphical element may be varied by specifying the alpha value of the display buffer.

    23.   (Amended)   A   graphics   display   system   for   displaying   a graphical element comprising:

    a low pass filter for filtering the graphical element to generate multi-level values, one multi-level value per each pixel, at an intended final display resolution;

    a display buffer for storing the multi-level values; and

    a display engine for compositing the multi-level values with graphics images using the multi-level values as alpha blend values,

    wherein generation of the multi-level values do not depend on alpha blend values that existed prior to filtering.

    29.   (Amended) The graphics display system of claim ~~24~~ 23 wherein the alpha blend values include CLUT indexes, each CLUT index is associated with a CLUT entry, and each CLUT entry contains a CLUT alpha blend value.

    30.   (Amended) The graphics display system of claim ~~24~~ 23 wherein the alpha blend values are used to form alpha portions of pixels having a color portion and an alpha portion.

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    41.   (Amended) ~~The graphics display system of claim 23~~

        <u>A graphics display system for displaying a graphical element</u>
<u>comprising:</u>

        <u>a low pass filter for filtering the graphical element to</u>
<u>generate multi-level values, one multi-level value per each pixel, at</u>
<u>an intended final display resolution;</u>

        <u>a display buffer for storing the multi-level values; and</u>

        <u>a display engine for compositing the multi-level values with</u>
<u>graphics images,</u>

        wherein the translucency of the graphical element is varied
by specifying the alpha value of the display buffer.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

CROSS REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of the filing date of U.S. provisional patent application number 60/107,875, filed November 9, 1998 and entitled "Graphics Chip Architecture," the contents of which are hereby incorporated by reference. ~~This application is related to U.S. patent application number _____, filed November 9, 1999 and entitled "Graphics Display System," the contents of which are hereby incorporated by reference.~~

In the claims:

1.   (Amended) A method of displaying a graphical element comprising the steps of:

filtering the graphical element with a low pass filter to generate a multi-level value per pixel at an intended final display resolution; and

using the multi-level values as alpha blend values for the graphical element in a subsequent compositing stage¸

<u>wherein generation of the multi-level values do not depend on alpha blend values that existed prior to filtering</u>.

2.   (Amended) The method of displaying a graphical element of claim 1 wherein the multi-level values are written into a display buffer where the multi-level values are used as <u>the</u> alpha blend values when contents of the display buffer are composited with other graphics and video images.

21./ (Amended) ~~The method of displaying a graphical element of claim 2~~ <u>A) method of displaying a graphical element comprising the</u>

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steps of:

       filtering the graphical element with a low pass filter to generate a multi-level value per pixel at an intended final display resolution; and

       using the multi-level values as the alpha blend values for the graphical element in a subsequent compositing stage,

       wherein the multi-level values are written into a display buffer where the multi-level values are used as alpha blend values when contents of the display buffer are composited with other graphics and video images, and

       wherein the step of using the multi-level values as the alpha blend values for the graphical element in a subsequent compositing stage comprises compositing the display buffer with other graphics and video contents while blending the display buffer with all layers behind it using alpha per pixel values.

     22.   (Amended) ~~The method of displaying a graphical element of claim 2~~ A method of displaying a graphical element comprising the steps of:

       filtering the graphical element with a low pass filter to generate a multi-level value per pixel at an intended final display resolution; and

       using the multi-level values as alpha blend values for the graphical element in a subsequent compositing stage,

       wherein the multi-level values are written into a display buffer where the multi-level values are used as the alpha blend values when contents of the display buffer are composited with other graphics and video images, and

       wherein the opacity of the graphical element may be varied by specifying the alpha value of the display buffer.

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23.   (Amended) A graphics display system for displaying a
graphical element comprising:

a low pass filter for filtering the graphical element to
generate multi-level values, one multi-level value per each pixel, at
an intended final display resolution;

a display buffer for storing the multi-level values; and

a display engine for compositing the multi-level values with
graphics images using the multi-level values as alpha blend values,

wherein generation of the multi-level values do not depend
on alpha blend values that existed prior to filtering.

29.   (Amended) The graphics display system of claim 2~~4~~ 23 wherein
the alpha blend values include CLUT indexes, each CLUT index is
associated with a CLUT entry, and each CLUT entry contains a CLUT
alpha blend value.

30.   (Amended) The graphics display system of claim 2~~4~~ 23 wherein
the alpha blend values are used to form alpha portions of pixels
having a color portion and an alpha portion.

41.   (Amended) ~~The graphics display system of claim 23~~

A graphics display system for displaying a graphical element
comprising:

a low pass filter for filtering the graphical element to
generate multi-level values, one multi-level value per each pixel, at
an intended final display resolution;

a display buffer for storing the multi-level values; and

a display engine for compositing the multi-level values with
graphics images,

wherein the translucency of the graphical element is varied
by specifying the alpha value of the display buffer.

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